DOCUMENT RESUME

ED 135 133 EC 092 961

AUTHOR Ewing, Norma; Casey, John
TITLE Diagnostic Prescriptive Instruction: A Review of Related Literature - 1970 to Present.
PUB DATE Aug 76
NOTE 16p.; Paper presented at the International Scientific Conference of IFLD (3rd, Montreal, Canada, August 9-13, 1976)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Diagnostic Teaching; Elementary Secondary Education; *Learning Disabilities; *Program Effectiveness; *Research Reviews (Publications)

ABSTRACT

Research from 1970 to 1976 is reviewed to determine the present status of diagnostic prescriptive instruction for learning disabled children. It is noted that findings of previous research have failed to conclusively demonstrate the effectiveness of specific ability training; that the legitimacy of the nonsupportive conclusions have been questioned, and that research designs have been a source of controversy. The general conclusion is set forth that the literature review appears to legitimize current skepticism regarding the effectiveness of diagnostic prescriptive instruction from a psychoeducational perspective. (Author/CL)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED135133

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

DIAGNOSTIC PRESCRIPTIVE INSTRUCTION: A REVIEW OF RELATED LITERATURE - 1970 TO PRESENT

Norma Ewing
John Casey

Southern Illinois University-Carbondale

Paper presented at the

International Conference of Learning Disabilities
Montreal, Canada
August 8 - 13, 1976

EC092961

Introduction

In an attempt to establish the current status of diagnostic prescriptive instruction, as reported by the literature, the writers approached a cogent review of the literature from 1970 to present. Coverage of reported literature during the past six years has provided the following written exposition.

How often have we read or used the term "diagnostic prescriptive instruction," in reference to instructional strategy or management models designed for use with students evidencing learning problems? Paralleling the accelerating momentum of the learning disabilities concept during the past fifteen years, the term "diagnostic prescriptive instruction" has become increasingly more popular among special educators. Researchers and practitioners use the term to conceptualize instructional delivery systems for effectuating acquisition of academic skills with learning disabled students. The illusive generalized concept of diagnostic prescriptive instruction is not new, and has been espoused by educators for decades. Yet, today, there is seemingly a lack of definitive clarity regarding the meaning of the term, as it relates to an instructional system for "learning disabled" students (Sabatino, 1975). Just as an acceptable operational definition of "learning disabilities" has been elusive (Mercer, 1976), so has an acceptable definition for "diagnostic prescriptive instruction" remained somewhat confusing. Educators continue to use both concepts though both terms lack definitive clarity.

In reviewing related literature (Ewing and Brecht, 1976; Sabatineo, 1975; Basil, 1973; Hickey and Hoffman, 1973; Ysseldyke, 1973; Bennett, 1972;

Glaser, 1971; Christopolos, 1970), there is evidence of a lack of any singular acceptable definition of "diagnostic-prescription instruction." Though usage of the term is currently in vogue, meaning is often generated to best accommodate the educational philosophy or aspiration of a particular advocate. This lack of a precise definition has contributed to paramount confusion and dissention in the field of special education.

Recognizing that there is much variability in the conceptualization of what really makes for "diagnostic prescriptive instruction," increasing numbers of educators have become seriously committed, philosophically and practically, to educational practices labelled diagnostic prescriptive instruction. Such overwhelming commitment and application necessitates an attempt to ascertain the impact of such popular educational practice, which seems to border on faddism in the educational field today.

With increasing concern for educational accountability, the question of efficacy of diagnostic prescriptive instruction, particularly from a psychoeducational perspective, has seemingly become a justifiable issue. Growing skepticism regarding the effectiveness of diagnostic prescriptive instruction appear in the literature (Larsen, Rogers, and Sowell, 1976 a, b; Larsen and Hammi-l, 1975; Hammill and Larsen, 1974; Ysseldyke, 1973; Keogh, 1971; Mann, 1969-70). As a result of the growing skepticism, research designs are being critically evaluated in terms of yielding useful information regarding differential educational programming (Ysseldyke, 1973). Such stringent scrutinizing of research findings could prove beneficial to the field of learning disabilities, by forcing researchers to either empirically validate or empirically discredit the effectiveness of diagnostic

prescriptive instruction as warranted instructional strategy for use with learning disabled students. On the other hand, Minskoff (1975) indicated that the current skepticism can be lethal to the field of learning disabilities, if the skepticism leads to abolition of training methods, based on results generated from inadequate research. At the same time, uncritical acceptance and interpretation of findings from incomplete studies could also prove detrimental, as a secondary by-product of skepticism.

Controversy among special educators

In a continuous attempt to identify the most relevant instructional strategy, many educators are perhaps optimistic regarding the desirable instructional possibilities inherent in the diagnostic prescriptive instruction model. Theoretically, such an instructional model is desirable and seemingly conceptually sound. Logically, ascertaining what a student does do (strengths) and what a student does not do (weaknesses) is an initial step in assisting the problem learners. The question of what is important to assess and how to assess is a major controversial issue in the learning disabilities field today. The most appropriate means of what and how to assess pupil strengths and weaknesses is viewed differently depending on the accepted basic underlying assumptions regarding diagnostic prescriptive instruction (Ysseldyke and Salvia 1974; Quay, 1973). Basic disparity centers around the apparent exisence of two fundamentally different theoretical models; the task analysis model and the ability training model (Ewing and Brecht, 1976; Ysseldyke and Salvia, 1974; Quay, 1973). A review of recent literature indicates that numerous writers (Ysseldyke, 1974; Mann, 1971, Bijou, 1970) advocate diagnostic-prescriptive instruction

based on the task analysis approach. The task analysis approach to effectuating academic skill development emphasizes assessment of academic performance, followed by the development of instructional plans in a developmental sequence based on the status of a pupil's direct observed behavior.

Coexisting though, are those special educators who are committed to diagnostic prescriptive instruction as an effective instructional delivery system but from a psychoeducational perspective. The psychoeducational prescriptive approach accentuates diagnosing specific hypothetical constructs (personological variables such as visual-motor performance, auditory sequencing, form discrimination and figure ground) presumed related to learning, and then training specific ability deficits in an effort to improve academic achievement. Numerous persons, such as Frostig, Wepman, Kephart, Kirk, McCarthy and Kirk, etc., have developed assessment instruments, thus aligning self with the psychoeducational approach to diagnostic prescriptive teaching. In the recent literature various other writers (Minskoff, 1975; McCarthy, 1972, 1976; Sabatino, 1970, 1971) have evidenced support of the ability training approach to remediating learner problems.

Criticism of the psychoeducational approach

Diagnostic prescriptive instruction based on the psychoeducational perspective has been a rapidly expanding movement, complementing growth of the learning disability field. Such instructional practice has become increasingly controversial. There is speculation that psychoeducational programming is basically conjectural and subsequently unwarranted as sound

educational programming (Hammill and Larsen, 1974; Ysseldyke, 1973). Criticism regarding diagnostic prescriptive instruction from a psychoeducational perspective tends to focus on two basic issues. The primary issue reflects on the theoretical supposition that it is possible to fractionate learning processes, and through specific ability training improve academic achievement. The secondary issue relates directly to accountability and explicitly questions the efficacy of ability training as a means of improving academic achievement.

A review of the literature focusing on the first issue (Is it possible to fractionate learning?) tends to indicate that several educators (Ysseldyke and Salvia, 1974; Keogh, 1971; Mann, 1969; Mann and Phillips, 1967) have written extensively on the issue of possible fractionating learning processes and theorize that separation of learning processes, as the Illinois Test of Psycholinguistic Abilities (ITPA) and Frostig's Developmental Test of Visual Perception (Frostig) propose to specify, has not been validated. Critics theorize that learning processes are basically hypothetical and deficits in specified psychoeducational dimensions does not necessarily "cause" or "explain" failure to learn. It is not clear then whether various identified disabilities are correlates, cause(s) or results of learning problems. Psychoeducational instruments, in general, are thought to merely reflect the test instructor's analysis of the task and interpretation os psychological processes supposedly related to learning. Consequently, it is theorized that disabilities, as related to learning, may be in the eyes of the beholder. Thus, programming based on ability training is conceptualized as being basically experimental and

unsubstantiated. For the past decade and a half, much of the instruction for problem learners has revolved around improving fractionated learning processes. Literature seems to indicate that such activity remain questionable.

A review of the literature focusing on the second issue (the question of accountability and efficacy as ability training related to improved academic achievement) indicates that numerous studies have been conducted in an effort to assess the effectiveness of diagnostic prescriptive instruction based on psychoeducational evaluation. Emergent results from such research has been used to support diagnostic prescriptive instruction for pupils who have difficulty with academic skill development (Ysseldyke, 1973). Research reports tend to evidence inconsistent results; yet, numerous educators continue to focus primarily on findings that are reported as supportive of ability training.

A number of researchers (Hammill and Larsen, 1974 e ; Ysseldyke, 1973; Bracht, 1970) reviewed results from numerous collective studies designed to relate abilities to varying kinds of instruction. Hammill and Larsen (1974) reviewed results of a group of 38 studies which attempted to train children in psycholinguistic skills and used the ITPA as the criterion for improvement. After review of the 38 studies it was concluded that the effectiveness of such training has not been conclusively demonstrated and therefore the rapid expansion of psycholinguistic training programs seem unwarranted. Minskoff (1975) critiqued the Hammill and Larsen (1974 e) review and questioned the legitimacy of the reported conclusions. Minkoff's direct rebuttal emphasized that the 38 studies reviewed differed markedly

with respect to the nature of the subject, the treatment and the experimental design; consequently, Minskoff (1975) concluded that the analysis resulted in oversimplified conclusions and faulty implications. Newcomber and Hammill (1975) responded to Minskoff's rebuttal and acknowledged the need for well designed research but maintaned forthright that the reported literature still raises doubt regarding the efficacy of psycholinguistic training. Hammill and Larsen (1974 (b), 1976) followed up their 1974 (a) review with research reports that supposedly further supported their review findings regarding psycholinguistic training.

McCarthy (1976) also criticized Hammill and Larsen's review on psycholinguistic training and in addition offered a rebuttal (McCarthy, 1976) to the recent nonsupportive findings reported by Larsen, Rogers, and Sowell (1976). In the recent literature, Larsen (1976) offers a critical response to McCarthy's criticisms. The incadescent debate continues among special educators. Research tends to legitimatize the current skepticism regarding the effectiveness of diagnostic prescriptive instruction from a psychoeducational perspective.

Ysseldyke (1973) reviewed forty-seven representative studies designed to demonstrate the effectiveness of differential instructional programming and also concluded that there is little empirical support for the diagnostic prescriptive instructional model. Ysseldyke's review also focused on methodological problems related to descriptive research, gain-score research and aptitude-treatment research, typically used to assess diagnostic accountability/effectiveness and concluded that empirical support has not been evidenced because most research efforts have been inadequately designed to

test the theoretically desirable model. He concluded that correlational and gain-score results are inadequate sources to be used in differentiating instruction. Aptitude-treatment interaction research, designed to identify significant disordinal interactions between personological variables and alternative instructional programs, was presented as an appropriate design to be used in the investigation of diagnostic prescriptive relationship. Sabatino (1975) made an interesting observation regarding the use of aptitude-treatment interaction to validate prescriptive instruction. He implied that those who feel that aptitude-treatment interaction research can be used to specify appropriate diagnostic prescriptive teaching have been too anxious to apply statistical treatment to an inappropriately selected number of target behaviors, probably not reliably measured, and therefore invalidly described. Aptitude-treatment research has been questioned by Minskoff (1976) and Cronbach (1970). Remedial methods and materials most effective with which specific learning disability under what condition seemingly has not been identified.

In 1970, Bracht (1970) reviewed ninety aptitude by treatment interaction studies. The results of eighty-five of the ninety studies were either non-significant or ordinal interaction. Sabatino (1975) reported that the five studies that did yield dis-ordinal interaction were with non-handicapped children. In 1973 Ysseldyke and Sabatino (1973) concluded that the diagnostic-prescriptive model becomes viable only if a significant interaction between learner aptitude and differential treatment can be demonstrated. There is some disagreement regarding the appropriate research model to use to provide desired and meaningful data.

Diagnostic Prescriptive Instruction at The Crossroads

Educational theorists recognize the need for sound research designs to conclusively determine the effectiveness of diagnostic prescriptive instruction based on ability training (Ewing and Brecht, 1976; Newcomber and Hammill, 1975). Results reported indicate the necessity of cautiously idealizing the utility of ability training as a means of improving academic achievement. In view of research findings that seem to indicate the use of diagnostic prescriptive instruction from a psychoeducational perspective has not been conclusively determined, "Do we want to eliminate such educational programming altogether?," seems to be a justifiable question. Often, such questioning elicits the hesitant clichè, "Let's not throw out the baby with the bath water." Diagnostic prescriptive instruction continues to provide instructional diversity in the midst of growing controversy.

Recently, writers (Sabatino, 1975; Keogh, 1970; Wedell, 1970) have called for "redirection" rather than "replacement" of diagnostic prescriptive instruction, suggesting that complete elimination of such practices could eliminate possible sources of information that might be useful. The sentiment of many educators seem to be that we do not have the data to describe those behaviors which relate to learning in a succinct manner; nor have we identified a satisfactory diagnostic prescriptive model. However, we do have a few theoretical models. We have numerous tests and we have sophisticated research methods. The logical question that seems to formulate is, "What is it that we can not accomplish a diagnostic prescriptive model capable of guiding our instructional programs as a collective scientific discipline?" (Sabatino, 1975).

Contributions of diagnostic prescriptive movement

Overall, the current diagnostic prescriptive practices has generated much discussion in the literature regarding the efficacy of such practices. The trend has had positive impact in the educational field in general. Efforts by such persons as Frostig, Kephart, Kirk and McCarthy, etc., should not go unheralded. Diagnostic prescriptive instruction as popularily use today has provided interesting and valuable direction for education. Contributions generalized from a review of recent literature are as follows:

(a) In search of strategy to improve our teaching methods with problem learners, many promising instructional delivery systems have emerged (resource teachers, educational strategists, instructional advisors, diagnosticians), which all assist in further individualizing instruction (Sabatino, 1975). Diagnostic prescriptive instruction has assisted in further development of the concept of individualization of instruction.

(b) Currently, numerous learning disabled students are in the mainstream of education and receive some form of specialized instruction from a resource, itinerant or other special education teacher (Minskoff and Minskoff, 1976). Many students have become "a part of" rather than "a part from" regular education, most often accommodated by the use of some diagnostic prescriptive instruction. Diagnostic prescriptive instruction has assisted in mainstreaming problem learners.

(c) Diagnostic prescriptive instruction has served to diminish use of labels attached to students evidencing learning problems. Terms often used interchangable with diagnostic prescriptive teaching, in the absence of labels and attached stigma are, resource room, laboratory learning, and educational centers. The adverse effect of labeling could possibly become a moot issue. Diagnostic prescriptive instruction has assisted in the diminishing of labeling many pupils.

(d) Teacher training programs have begun to receive more scrutiny. There is more concern for the development of teacher competencies. Educators (Ginsberg, 1975; Sabatino, 1975; Fink, 1970) have also begun to call for systematic and precise direct teacher observational analysis of behaviors exhibited by problem learners. Diagnostic prescriptive instruction has caused educators to look closely at teacher training programs and identify more precise teacher competencies to guide practitioners in effectuating learning.

Summary

The conclusive verdict is apparently not in regarding the efficacy of diagnostic prescriptive instruction. Research has been marred by methodological and conceptual errors (Bracht, 1970; Cronbach, 1975). As a result, the degree to which children can master learning through use of ability training has not yet been conclusively determined (Minskoff and

Minskoff, 1976). However, there has been some positive contributions in general made by the diagnostic prescriptive instruction trend prevailing today.

References

Basil, R. "Diagnosis - Prescription in the Context of Instructional Management" Educational Technology. Vol. 13, (July, 1973) 23-27.

Bennett, M., et. al. "Prescriptive teaching workshop resource manual." ERIC Clearing House, 1972, ED072598.

Bijou, S. W. What Psychology has to offer education -- Now. Journal of Applied Behavior Analysis, 1970, 3, 65-71.

Bracht, G. H. Experimental factors related to aptitude-treatment interaction. Review of Educational Research, 1970, 40, 627-645.

Christopolas, F. Prescriptive teaching -- A cognitive approach and interpersonal learning. Teaching Exceptional Children, 1970, 2, 158-162.

Cronbach, L. Beyond the two disciplines of scientific psychology. American Psychology, 1975, 30, 116-127.

Ewing, N., and Brecht, R. Diagnostic prescriptive instruction: A critical review. Manuscript in publication, 1976.

Fink, A. An analysis of teacher-pupil interaction in classes for the emotionally handicapped. Unpublished doctoral dissertation, University of Michigan, 1970.

Ginsberg, H. Talking with children: An alternative to testing. Educational Technology, April, 1975, 15, 41.

Glaser, E., and Nitko, A. Measurement in Learning and instruction. In R. L. Thorndike (Ed.) Educational Measurement. Washington: American Council on Education, 1971.

Hammill, D., and Larsen, S. The effectiveness of psycholinguistic training. Exceptional Children, Vol. 41, September 1974 (a).

Hammill, D. D., and Larsen, S. C. The relationship of selected auditory perceptual skills to reading ability. Journal of Learning Disabilities, 1974 (b), 7, 429-436.

Keogh, Barbara. A compensatory model for psycho-educational evaluation of children with learning disorders. Journal of Learning Disabilities, December, 1971, 544

Larsen, S., Rogers, D., and Sowell, V. The use of selected perceptual tests in differentiating between normal and learning disabled children. Journal of Learning Disabilities, February, 1976, 9, 32-37.

Larsen, S. A response to James McCarthy, Journal of Learning Disabilities, June/July, 1976, 9, 334-337.

Mann, L., and Phillips, W. A. Fractional practices in special education, Exceptional Child, 1967, 33, 311-317.

Mann, L. Are we fractionating too much? Academic Therapy, 1969, 5, 85-91.

Mann, L. Perceptual training revisited: The training of nothing at all. Rehabilitation Literature, 1971, 32, 322-335.

McCarthy, J. Validity of perceptual tests: The debate continues. Journal of Learning Disabilities, 9, June/July, 1976, 332-334.

Mercer, C., Torgnone, C., Wolking. Definitions of learning disabilities used in the United States. Journal of Learning Disabilities, June/July, 1976, 9, 376-385.

Minskoff, Esther. Research on Psycholinguistic training: Critique and guidelines. Exceptional Children, November, 1975, 136-147.

Minskoff, E., and Minskoff, J. A unified program of remedial and compensatory teaching for children with process learning disabilities,